COURS D'EXPLOITATION DES MINES PAR AMEDEE BURAT: ATLAS

Amédée Burat

COURS
D'EXPLOITATION DES MINES

PAR

AMÉDÉE BURAT

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ATLAS



PARIS

LIBRAIRIE POLYTECHNIQUE DE J. BAUDRY

15, RUE DES SAINTS-PÈRES

MÊME MAISON A LIÉGE

1871

COURS

D'EXPLOITATION DES MINES

TABLE DES PLANCHES

MÉTHODES D'EXPLOITATION

PERCEMENT DES GALERIES ET TUNNELS

FONÇAGE DES PUITS.

VENTILATION DES MINES.

TRANSPORTS SOUTERRAINS EXTRACTION

APPAREILS D'EXHAURE

ÉTABLISSEMENT DES SIÈGES D'EXTRACTION.

PORTS SECS ET RIVAGES.

APPENDICE.

NOTA. Les planches de l'atlas du *Cours d'exploitation*, au nombre de 88, font suite à celles de l'atlas du *Matériel de houillère*. C'est un total de [illegible] planches qui renferment tous les documents qui intéressent l'industrie minière.

Fig. 1. Projection verticale du puits et étages

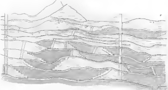


Fig. 2. Coupe verticale suivant AB indiquant la division en étages



Fig. 3. Chantier par gradins droits

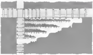
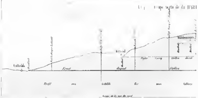


Fig. 4. Chantier par gradins renversés







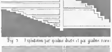


Fig. 3. Exploitation par gradins droits et par gradins renv…

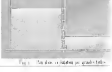


Fig. 4. Plan d'une exploitation par grandes tailles.





Fig. 5. Coupe verticale des filons d'ALMADEN à 300m de profondeur

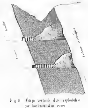


Fig. 6. Coupe verticale d'une exploitation par éboulement d'une couche de schiste alumineux

COUPE DU HARTZ

VUE GÉNÉRALE DES TRAVAUX SOUTERRAINS DE L'AMÉNAG[...]
ET DU SERVICE HYDRAULIQUE DE L'OBER HARTZ (N[...]




Grund
Ernst August Stollen

Fig. 4. Coupe d'un puits à Anzin

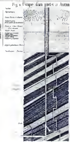


Fig. 6. Plan d'une exploitation par traçages et compartiments

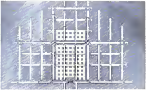


Fig. 5. Coupe d'une exploitation par tranches horizontales et remblais



MÉTHODE APPLIQUÉE A MONTRELAIS LES MINES

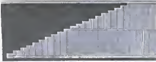


Fig. 1
Couches inclinées

MÉTHODE
MONTANT
par
gradins montants

Fig. 2
Couches inclinées

MÉTHODE
PAR VOIES

Fig. 3
Couches inclinées

MÉTHODE
PAR GRADINS
renversés
en chassage



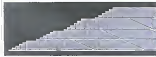


Fig. 4
Couches inclinées

MÉTHODE
PAR MAINTENAGES

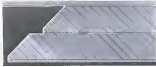


Fig. 1. Méthode des Long-Walls.

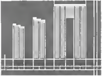


Fig. 2. Méthode des Panels-Works.

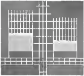


Fig. 3. [illegible] des Panels-Works.

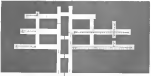
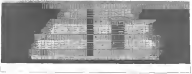
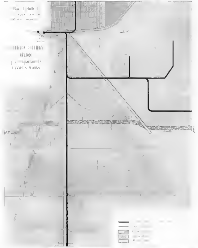
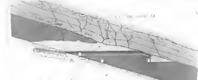


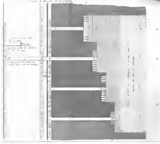
Fig. 4. Disposition des [illegible]







Plan au niveau des galeries de rabatage et coupe horizontale



EXPLOITATION D'UNE COUCHE DE 12 MÈTRES À MONTCEAU LES MINES
MÉTHODE PAR RABATAGE TRANCHES DE 6 MÈTRES DE HAUTEUR

Échelle de [illegible]

Fig. 3. Coupe suivant *HGFEDCBA*



Fig. 4. Coupe suivant *IJ*



DÉTAIL D'UN CHANTIER DE RABATAGE

Fig. 5. Coupe suivant *EG*

Fig. 6. Coupe suivant *HG*

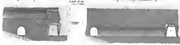


Fig. 4

Plan de l'exploitation d'une grande couche par tranches horizontales en remblais



Fig. 5

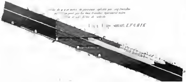


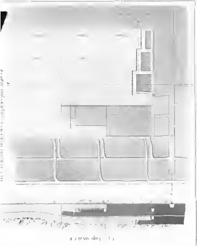
Fig. 6

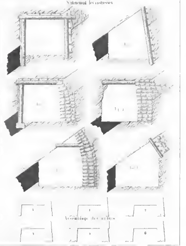


MÉTHODE PAR TRANCHES INCLINÉES APPLIQUÉE A LUCY PRÈS MONTCEAU LES MINES

Fig. 7. Coupe suivant *E F G H I K*






Soutènement les costresses
Assemblage des cadres

PERCEMENT DES GALERIES

CADRE D'ANGES. PROCÉDÉ VICTOR SIMON

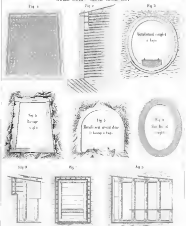


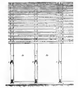
Fig. 9. Percement d'une galerie dans les terrains ébouleux

SOUTÈNEMENT DES GALERIES EN FER (SYSTÈME ROBERT)

Fig. 1. Coupe transversale



Fig. 2. Élévation et Coupe longitudinale



SOUTÈNEMENT DES GALERIES EN FONTE (SYSTÈME ROCHE)

Fig. 2. Coupe transversale

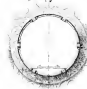


Fig. 2. Coupe longitudinale



Fig. 3. Tunnel du canal de St Quentin
Percement et muraillement dans les fonds

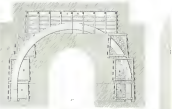
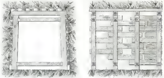
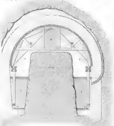


Fig. 4. Boisage des galeries dans les fonds



Tunnel du canal de Bourgogne









TUNNEL DU CANAL DE CHARLEROY

Fig. 1. Taille à l'avancement



Fig. 2. Cintrage et muraillement



Fig. 3. Coupe longitudinale

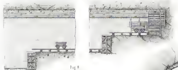


Fig. 4



Fig. 4
TUNNEL DE MONTREUIL

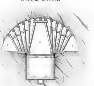


Fig. 5
TUNNEL SUR LA LIGNE DE VIENNE-TRIESTE

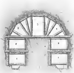


Fig. 7

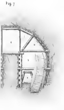
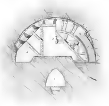


Fig. 6
TUNNEL DE ROLLY



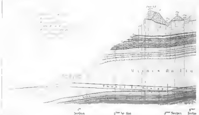




Fig. 8

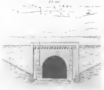


Fig. 9 Tête du tunnel Côte de Malon

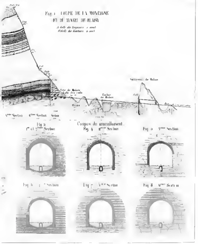

Fig. 1. COUPE DE LA MONTAGNE
ET DU TUNNEL DE BLAISY
Coupes du muraillement
Fig. 4
Fig. 5
Fig. 8

Fig 1
Premiere attaque de la section
par une galerie directrice
Boisage inferieur



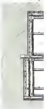
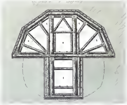


Fig 4. Élargissement. Pied du boisage



...une galerie
...p ...

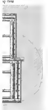


Fig. 3. Élargissement
Boisage latéral

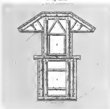


Fig. 5. Section totale. Boisage complet

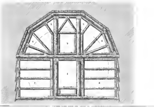


Fig. 1. Fondation et construction des pieds-droits

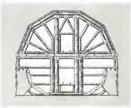


Fig. 3. Cintrage et construction de la voûte renversée

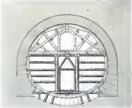


Fig. 2. Cintrage et construction de la voûte

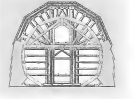
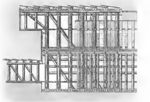


Fig. 4. Coupe longitudinale de l'avancement

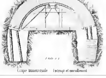


TUNNEL DE

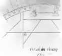




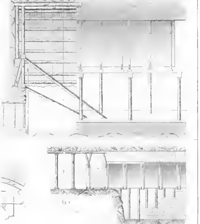
TUNNEL DE SAINT CLOUD



Coupe transversale — Cintrage et muraillement



Détail du cintrage



Coupe longitudinale. Cuvelage et muraillement.

TUNNEL DE

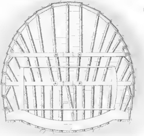


Fig. 1. Boisage du front de taille





Fig. 4. Coupe longitudinale du tunnel

(LÉGENDE)

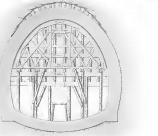


Fig. 2. Cintrage et muraillement



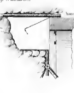
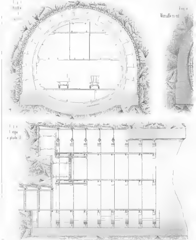


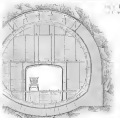
Fig. 4. Avancement du 1er du ...

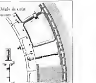


Fig. 3. Clavage de la voûte

PERCEMENT DES TUNN







Details du cintre
voussoirs

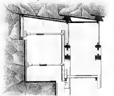
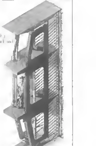
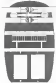


Fig 5 Detail du boucher



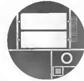
NORD DE CHARLEROI

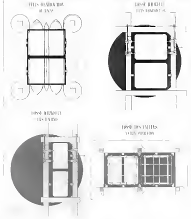


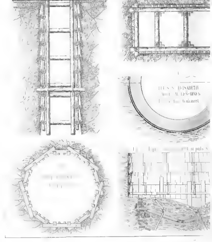


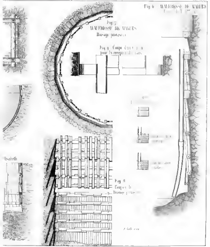
NORD DE CHARLEROI

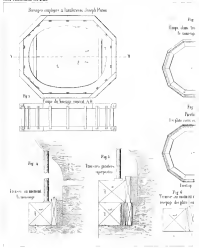


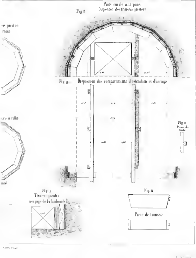



PUITS D'EXTRACTION
PUITS D'EXTRACTION
PUITS D'AÉRAGE

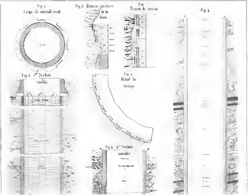



Fig. 6
Fig. 9
Boisage provisoire
Isabeth


Bosages employés à l'avaleresse Joseph Perier
A
B
Fig 1
Coupe du bosage suivant A B
Fig 4
Trousse au moment du recepage
Fig 5
Trousses picotées superposées
Fig 6
Trousse au moment du recepage des plats-bords

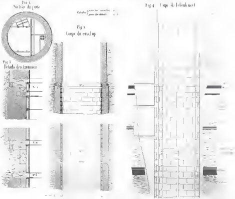

Puits cuvelé à 16 pans
Disposition des trousses picotées
Fig 8
Fig 9
Disposition des compartiments d'extraction et d'aérage
Fig 10
Fig 7
Fig 12
Pierre de trousse

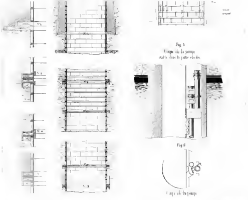
FOSSE DE NŒUX (PAS DE CALAIS)



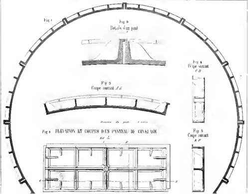


FONÇAGE DU PUITS DE RHEIN ELBE (RUHR)




Fig 5
Coupe de la pompe
établie dans la partie cuvelée
Fig 6
Coupe de la pompe

CUVELAGE EN FONTE. FOSSE ALMA ROBAIX-DUBE



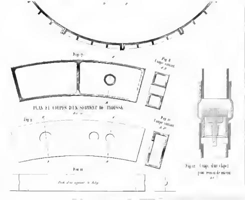
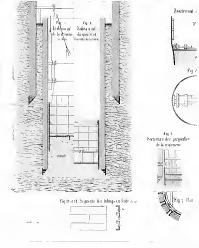


Fig. 7.
Fig. 8
Coupe suivant A B
PLAN ET COUPES D'UN SEGMENT DE TROUSSE
Fig. 9
Fig. 10
Coupe suivant A B
Fig. 11
Fig. 12. Coupe d'un clapet pour trousse de niveau


Fig 5
Fermeture des garpoulkes
de la maçonnerie
Fig 7 Plat

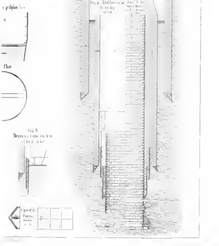

Plan
Fig. 8

Fig 1
Trousse coupante et cuvelage.

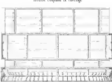


Fig 2
Position des magnanerres et du cuvelage

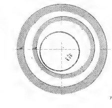




Fig 6 Tube à bétonner le fond du puits

Fig 3



…T DE SOFIN BUHI
…ion de la drague



Fig. 4
Cuvelage en bois

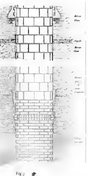
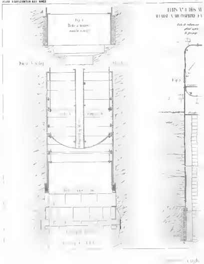


Fig. 5 Suspension des tuyaux (…)



Fig. 7
Drague

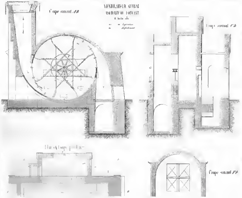


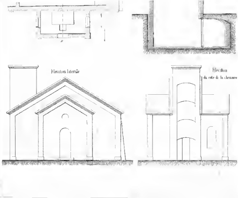




AÉRAGE

VENTILATEUR GUIBAL ASPIRANT OU FOULANT




Elevation laterale
Elevation
du côté de la cheminée

VENTILATEUR Sᵀᴱ EUGÉNIE
SYSTÈME

Fig. 1 Coupe suivant $G\,H\,K$ du plan

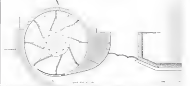
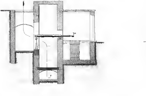


Fig. 3 Coupe suivant $M\,F$ du plan



A MONTCEAU LES MINES
M MODÈLE

Fig. 2. Plan du …

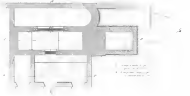
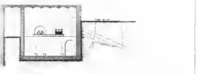
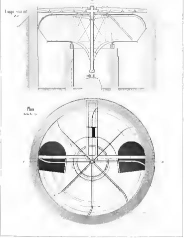
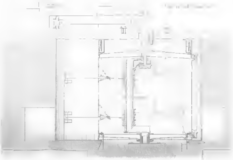


Fig. 4. Coupe suivant a b du plan




Coupe suivant
Plan

VENTILATEUR LEMIELLE



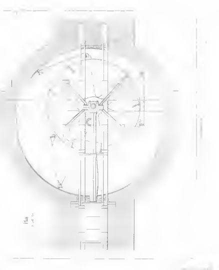


Fig 2 VENTILATEUR HARZE Plan

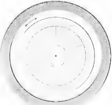


Fig 1 VENTILATEU

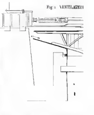


Fig 3 VENTILATEUR HARZE Coupe

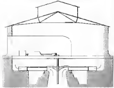
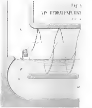


Fig 4
VIS HYDRAUPNEUMAT



BRUNTON

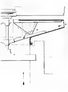


Fig 5 VENTILATEUR NIXON

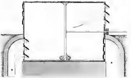


Fig 8 CLAPETS MAHAUX



Fig 6 CLAPETS NIXON



QUE DE GUIBAL



Fig 7 VENTILATEUR MAHAUX

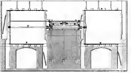


Fig. 1. BERLINE D'ANZIN

Éch. [illegible]

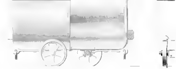


Fig. 2.

BENNE ROULANTE DE LA CHAZOTTE

Éch. [illegible]

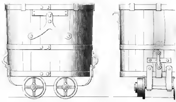


Fig. 3. ROUE PALAT



Fig. 4



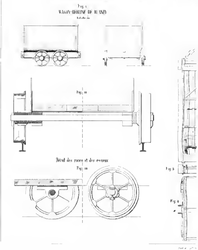
COMPRESSEUR POUR LES INJECTIONS DE LIQUIDE



Fig. 5

BROUETTE FAGÉS A BASCULE




WAGON-BERLINE DE BLANZY
Fig. 10
Détail des roues et des essieux
Fig. 11
Fig. 3
Fig. 4

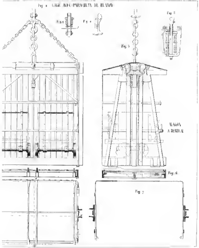

CAGE AVEC PARACHUTE DE BLANZY
Fig. 5
Fig. 8
WAGON
Fig. 6
Fig. 7

Fig. 1 POMPE POUR LA COMPRESSION DE L'AIR



Fig. 2 PLAN D'UNE POMPE POUR LA COMPRESSION DE L'AIR

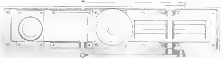


Fig. 3 POMPE POUR LA COMPRESSION DE L'AIR A SARS LONGCHAMPS

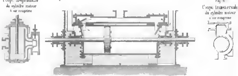
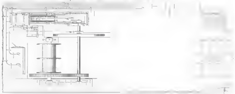


Fig 4. MACHINE A AIR COMPRIMÉ DE SARS LONGCHAMPS



CAGE ET PARACHUTE

Fig. 1 – Élévation

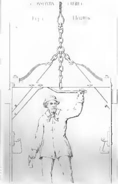


Fig. 4 – TAMBOUR SPIRALE DU PUITS SKALLEY

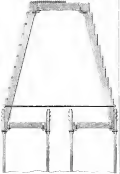




Fig. 2 Guide des griffes

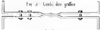


Fig. 3
Parachute FONTAINE

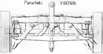


Fig. 5

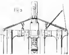


Fig. 4 Plan de l'enroulement

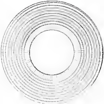


Fig. 6 Tambour spiral

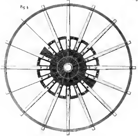


EXTR



Fig. 1 BOBINE

Fig. 4

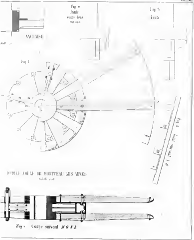


BOBINE FOLLE DU CREUSOT

Échelle ...



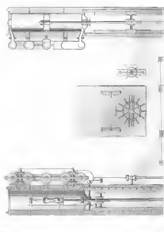
Fig. 5

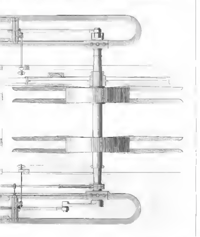


TURBINE FOULÉ DE MONTCEAU LES MINES

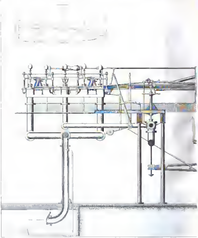
Fig. 2 Coupe suivant H O N E

MACHINE D'EXTRACTION A DÉTENTE VARIAB



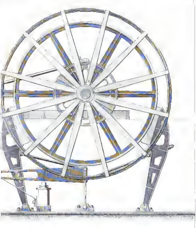


MACHINE D'EXTRACTION A DÉTENTE VARIAB

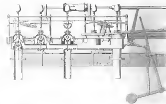


P. DE LUCY Nº 4 A MONTCEAU LES MINES

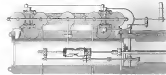
PL. XI B

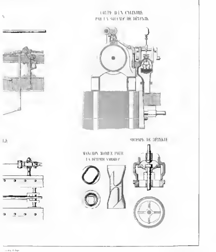


COUPE ET ÉLÉVATION DE LA DISTRIBUTION A DÉTENTE VARIAB

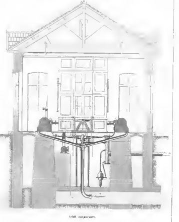


PLAN D'UN CYLINDRE AVEC LA DISTRIBUTION A DÉTENTE VARIAB

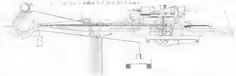


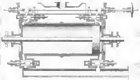

COUPE D'UN CYLINDRE
PAR LA SOUPAPE DE DÉTENTE
MANCHON MOBILE POUR
LA DÉTENTE VARIABLE
SOUPAPE DE DÉTENTE

MACHINE D'EXTRACTION PUITS DU MAGNY N° 2
Coupe transversale



EXTRACTION. MACHINE A DETENTE SCOHY



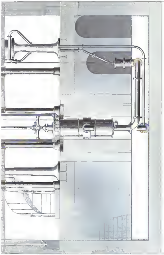


Coupe longitudinale d'un cylindre

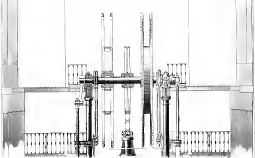
MACHINE D'EXTRACTION DU PUITS MONTERRAD A FIRMINY

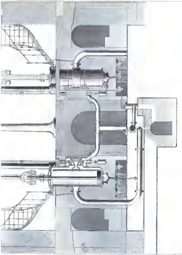
Par MM. REVOLLIER BIÉTRIX & C.

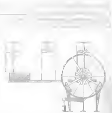


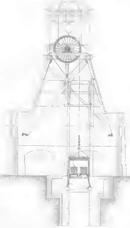


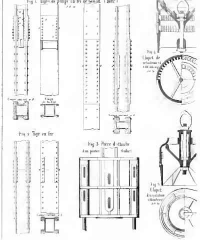
MACHINE D'EXTRACTION DU PUITS MONTFERRAT À FIRMINY
Par MM. REVOLLIER BIÉTRIX et Cie

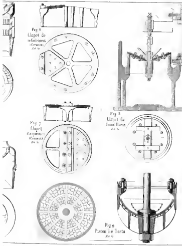


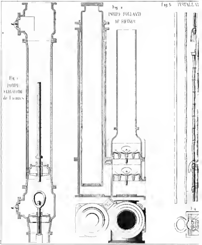


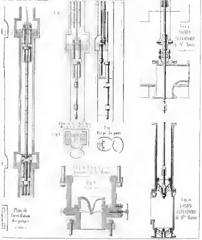




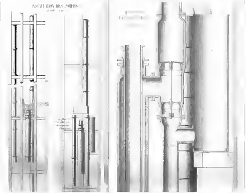

Fig 1 Tiges de pompe en fer de Gewalk (Ruhr)
Fig 2 Tige en fer
Fig 3 Piece d'attache d'un piston foulant
Fig 4 Clapet de refoulement (Altenberg)
Fig 5 Clapet d'aspiration (Altenberg)

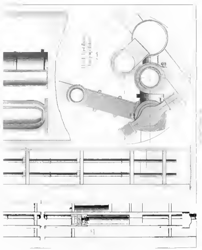

Fig 6
Clapet de refoulement (Creusot)
Fig 7
Clapet d'aspiration (Creusot)
Fig 8
Clapet du Grand Hornu
Fig 9
Piston de Testa

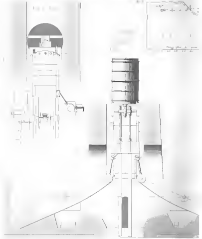

Fig. 1
POMPE
ÉLÉVATOIRE
de Fiennes
Fig. 2
POMPE FOULANTE
DE FIENNES
Fig. 5 INSTALLAT

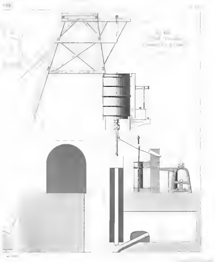

DE HAINE St PIERRE
POMPE ELEVATOIRE de Ste Marie

EXHAURE — POMPES DU CREUSOT

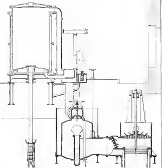


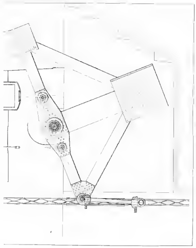


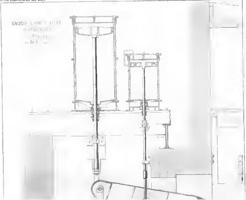


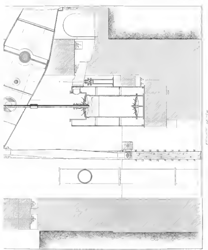


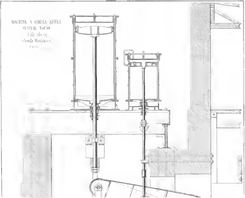
MACHINE DE KLADNO PAR QUILLACQ
SYSTÈME BOCHOLTZ

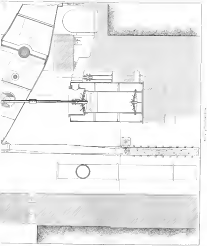








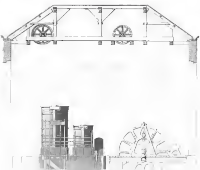

MACHINE A SIMPLE EFFET
SYSTÈME WOLFF

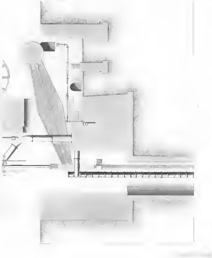


EXHAURE

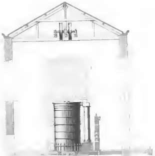
MACHINE DE 300 CHEVAUX

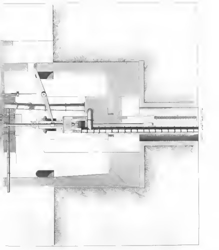
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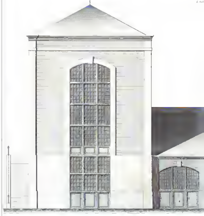


MACHINE DE 300 CHEVAUX
DU PUITS St LAURENT AU CREUSOT

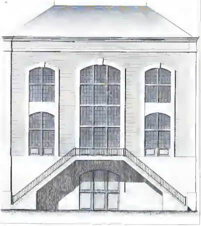


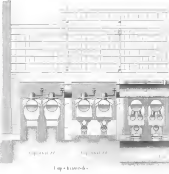


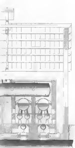
MACHINE DE 300 CHEVAUX DE

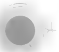


PUITS S^T LAURENT AU CREUSOT

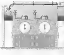




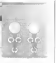




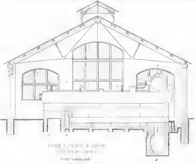
Section à hauteur de la cheminée



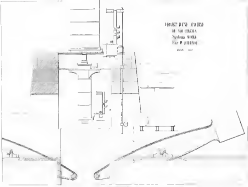
Avant. Vue des foyers



Arrière. Vue des bouilleurs



EXHAURE



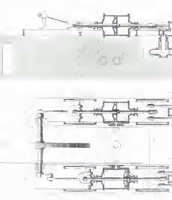
COURS D'EXPLOITATION DES MINES

EXII

MACHINE INTÉRIEURE POUR EXT

PUITS Ste MARIE A

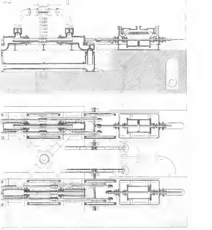
Projet

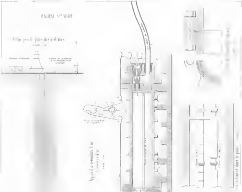


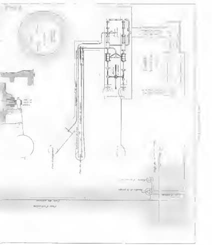
...ATION ET COMPRESSION DE L'AIR

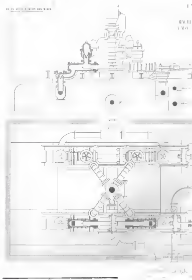
...MONTCEAU LES MINES

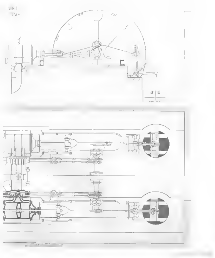
...jet de 1867



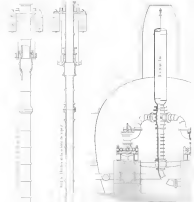

MACHINE Ste MARIE



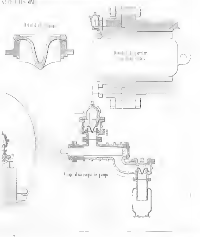




MACHINE STE MARIE N



Coupe transversale


Coupe d'un corps de pompe

FOSSE DE BELLEVUE A JUMET (CHARLEROY)

Fig. 1.



Fig. 2. FOSSE ... A DENAIN

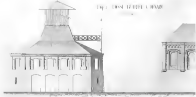




Fig. 3. Coupe du chevalement de la fosse LE BRET

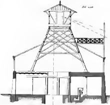
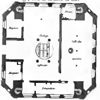
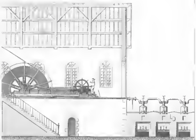




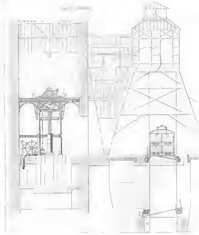
Fig. 4. Plan de la fosse LE BRET



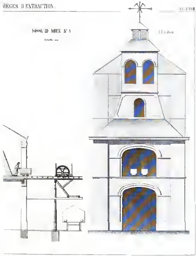




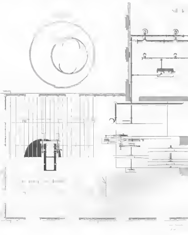
ÉTABLISSEMENT DES



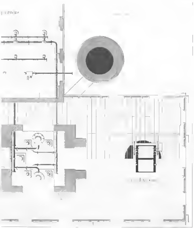
FOSSE DE MEUX N° 4

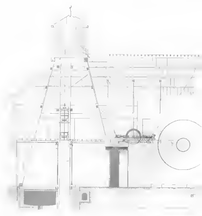


PLAN DE LA FOSSE D'HAVELUY AI

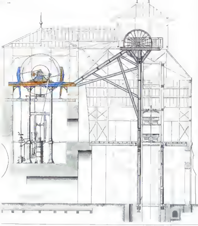


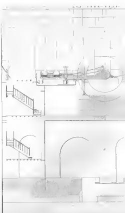
NIVEAU DES CLICHAGES SUPÉRIEURS

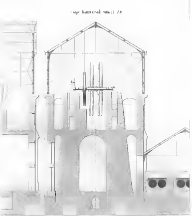




SSE D'HAVELUY







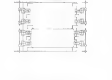
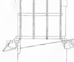
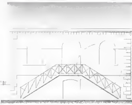


Fig. 5

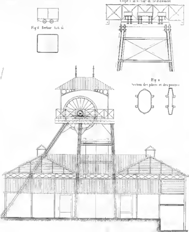
Cage sur le clichage

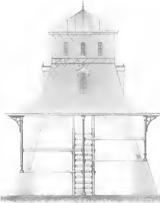


Élévation

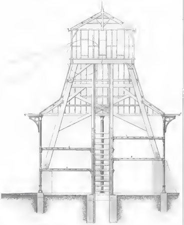


ETIENNE PUITS SAINT LOUIS

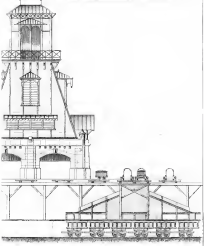




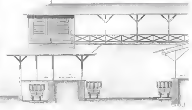


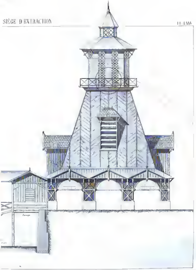






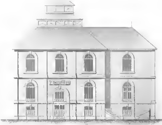
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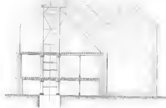
PUITS MONTERRAD N°

Éch



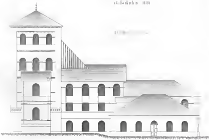
Élévation

" A FIRMINY LOIRE

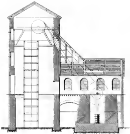


Coupe longitudinale

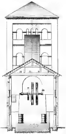
CHARBONNAGE DE BOIS-DU-LUC



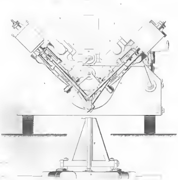
Coupe longitudinale



Coupe transversale

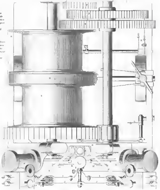


CABESTAN LOCOMOBILE DE REVOLLIER ET BIÉTRIX



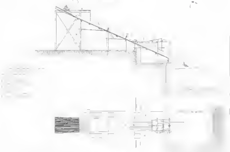
Légende

G Volant
H Poulies motrices
L Levier de manœuvre de prise de vapeur
N Poulie de frein
P Engrenage pour la grande vitesse
Q d° pour la petite vitesse

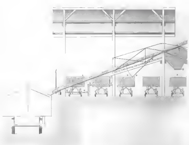


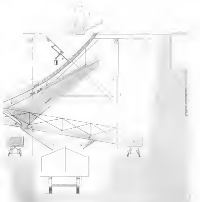
PORTS SECS ET RIVAGES

GLISSIÈRE COURTIN
POUR LE CHARGEMENT DIRECT DES CHARBONS À BATEAU



CRIBLE DE DECAZEVILLE (AVEYRON)



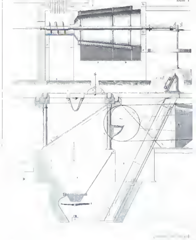


PORTS SECS E

CRIBLAGE ET TRIAGE DES CH

Coupe longitu

Échelle 1/



ONS DANS LA RUHR
de

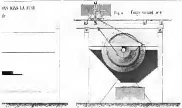
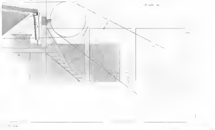
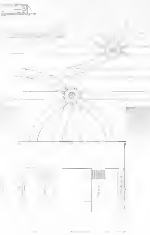


Fig 4 Coupe suivant

Fig 3 CRIBLAGE TIRAGE ET LAVAGE DES CHARBONS AU PUITS DOLOMIEU







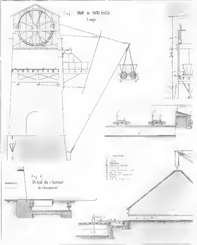

NEWCASTLE
Coupe
Détail du chariot
de chargement

Fig 2
Élévation



Fig 3 DOCK OF NEWCASTLE Plan

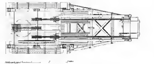
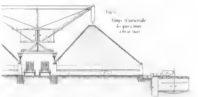


Fig 4 Coupe longitudinale des quais à trous (Decau)

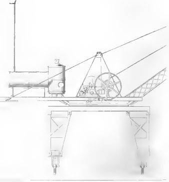


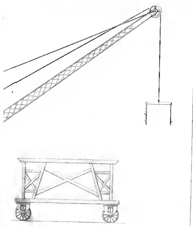
Fig 5
Coupe transversale
des quais à trous
à Decau (Chef)



GRUE QUILLACQ
POUR LE CHARGEMENT ET LA MISE EN TAS DES CHARB[ONS]
A ANZIN

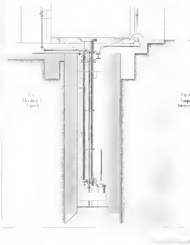
Échelle [illegible]





PUITS SECS

MONTE-CHARGES HYDRAULIQUE



Ct DE CONCORDIA (BOHR.)

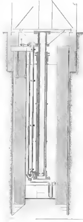
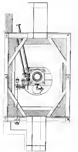
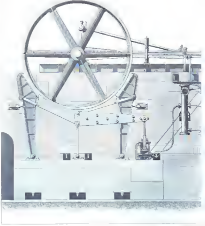


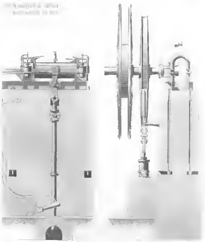
Fig. 9 Plan



MACHINE D'EXTR

DISPOSITION DE L





DIAGRAMMES DES MACHINES D'EXTRACTION A MONTCEAU-LES-MINES

N° 1 Extraction du charbon 1 cuve au cran Pression 4½ Détente ¼
Caisse a eau vide pour contrepoids Marche 4

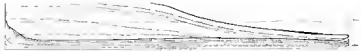


N° 2 Épuisement 1 Caisse a eau pleine monte
1 Cage vide pour contrepoids Marche 38
Courbes correspondant a diverses positions de la caisse dans le puits Détente 1/4



N° 3 Extraction du charbon 1 cuve au cran manœuvre complete
Marche N° Pression 4 atm ½ (Manœuvre faite en serrant plus ou moins la coulisse régulatrice)

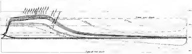




N° 4 Extraction du charbon — Courbes prises avec diverses positions du levier de changement de marche gouvernant la détente



Puits Ste Marie — Diagrammes d'une manœuvre en 18 tours



MACHINE D'EXTRACTION S^T PIERRE
(MACHINE A DEUX CYLINDRES DIAMETRE 550% COURSE 2.000)

Diagrammes

Marche à l'arrière



Marche à l'avant

